

REMARKS

Favorable consideration of this Application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing Amendment, Claims 21, 23-30, and 32-38 are pending in the present Application. Claims 1-20, 22, and 31 have been canceled without prejudice or disclaimer. Claims 21 and 30 have been amended. Support for the amendment of Claims 21 and 30 can be found at least on page 13, lines 9-19 of the specification. Since all the elements of the claims were either earlier claimed, or inherent in the claim, as examined, it is respectfully requested that the Examiner enter the response on the record. The response will present Applicants' position in a better form for appeal. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claims 21, 23-30, and 32-38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Cerwall (U.S. Patent No. 6,868,277) in view of Bhatia et al. (U.S. Patent No. 6,112,101, hereinafter Bhatia).

REJECTION UNDER 35 U.S.C. § 103

The outstanding Official Action has rejected Claims 21, 23-30, and 32-38 under 35 U.S.C. § 103 as being unpatentable over Cerwall in view of Bhatia). The Official Action contends that Cerwall discloses all of the Applicants' claim limitations with the exception of determining a level of priority of a requesting mobile station. However, the Official Action cites Bhatia as disclosing this more detailed aspect of the Applicants' invention and states that it would have been obvious to one skilled in the art at the time the invention was made to combine the cited references for arriving at the Applicants' claims. Applicants respectfully traverse the rejection.

By way of background, as wireless communication is increasingly employed for a range of services including image and text based communications; as such, the allocation of radio channel resources greatly impacts transmission quality. Typically, radio resources are allocated to uplinks and downlinks based solely on the comparison of the amount of uplink traffic as compared to the amount of downlink traffic in a given cell. However, when the link data transmission in a given cell base station is opposite to that of a cell of a neighboring base station, interference of the radio's resources between base stations is likely to take place.¹

In light of at least the above deficiency, the present invention is provided. With at least the above object in mind, a brief comparison of the claimed invention, in view of the cited references, is believed to be in order.

Amended Claim 21 recites, *inter alia*, a resource allocation method, including:

. . . causing the base station to determine whether a level of priority of the requesting mobile station is higher than a level of priority of each of the mobile stations using the radio resources allocated in the cell sites of the neighboring base stations, based on the priority information related to the base station of concern and the priority information related to the neighboring base stations . . . (emphasis added)

Cerwall describes a mobile radio system and associated method for channel allocation. As shown in Fig. 1, a mobile radio network (100) provides radio communication to users of mobile stations (MS) in a coverage area (105). A base transceiver station (BTS) establishes communications with mobile stations using radio links (115). The BTS provides a downlink frequency and an uplink frequency, each of which is divided into time slots, which are employed by different MSs.² As shown in Fig. 2, to improve communication quality, the radio quality of available channels and their impact on already existing radio connections are examined prior to determining a specific radio channel to allocate. As noted

¹ Application at pages 1-3.

² Cerwall at column 4, lines 14-49.

in the Official Action, Cerwall does not disclose, or suggest, determining whether a level of priority of a requesting mobile station is higher than a level of priority of other mobile stations.³

Bhatia describes a load-based priority telecommunication system for tracking the resource usage of a cell. A base station controller (23) monitors the load in each cell (22) and updates the load and priority data per cell.⁴

Conversely, in an exemplary embodiment of the Applicants' invention, a determination is made whether the level of priority of a requesting mobile station in a given cell site is higher than the level of priority of each of mobile stations using the radio resources allocated in the cell sites of neighboring base stations. The determination based on the priority information related to a base station of concern and the priority information related to neighboring base stations.⁵ As can be appreciated from the aforementioned claim limitations, when a link direction is not the same, the level of radio resource interference can be made low and the non-allocated radio resources allocated to the link, if the level of priority of the requesting mobile station is high and the allocation of the non-allocated radio resource is possible. As such, a new radio resource is allocated to the link based on both the use-state information and the priority information detected. As Bhatia only determines priority (TCH) of mobile stations in a cell, neither Bhatia alone, or in combination with Cerwall, disclose, or suggest, causing a base station to determine whether a level of priority of a requesting mobile station is higher than a level of priority of each of the mobile stations using the radio resources allocated in the cell sites of the neighboring base stations, based on the priority information related to the base station of concern and the priority information related to the

³ Official Action of February 17, 2006 at page 4.

⁴ Bhatia at Fig. 2A.

⁵ Specification at page 13, lines 9-19.

neighboring base stations, as recited in amended Claims 21 and 30, and by virtue of dependency, the remaining balance of the pending claims.

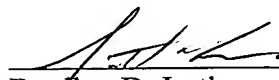
Accordingly, Applicants respectfully submit that the rejection of Claims 21, 23-30, and 32-38 under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present Application, including Claims 21, 23-30, and 32-38, is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at

Respectfully submitted,

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